Submission to the Productivity Commission's Productivity Inquiry

March 2022

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INTRODUCTION

The Smith Family welcomes the Productivity Commission's inquiry into Australia's productivity performance. This is timely, given it is five years since the Commission's last review of productivity and its *Shifting the Dial* report, and for the last two years or so, Australia, like the rest of the world, has been deeply impacted, economically and socially, by COVID-19.

There are concerns that the impact of COVID may persist for many years, including potentially through dramatically different global migration and people movement patterns. The current situation in the Ukraine is also likely to impact global migration, including the movement of skilled migrants, which has significantly contributed to Australia's economic and social development and productivity for decades. How long COVID impacts Australia and which groups of Australians are most effected, is a key dimension of Australia's productivity, and will in part, depend on the policies which Governments pursue across a broad range of portfolios.

The Smith Family

The Smith Family is Australia's largest national children's education-oriented charity. Our vision is that *All young Australians can reach their full potential, regardless of their circumstances* and our belief is that *through education, young people in need can thrive.*

The Smith Family works in partnership with families and supporters to provide long-term evidence based support for the education of young Australians in need, empowering them to create better futures for themselves. In FY21, 180,000 children and young people participated in our programs, as did 35,500 parents/carers and community members.

Given the educational focus of The Smith Family's work and its relationship to Australia's long-term productivity, this submission focuses on what might be done to support improved educational outcomes of young Australians, especially those experiencing disadvantage.

PRODUCTIVITY, EDUCATION AND SKILLS

The links between education, skills and productivity have been well documented, including in a range of publications from the Productivity Commission. As a 2010 Staff Working Paper noted "Empirical estimates in the academic literature – both Australian and overseas – support the hypothesis that high education levels and lower incidence of illness are associated with higher wages, and by implication, higher labour productivity" (Forbes et al 2010, p xvi). Further, "People who are unemployed or not in the labour force have systematically different characteristics from people who are employed. For example, they tend to have lower levels of education, a greater incidence of chronic illness and a longer experience of unemployment" (p xvi).

The 2017 *Shifting the Dial* report noted the importance of employment for a range of individual and national dimensions. Employment brings "income, social interaction, self-esteem and sense of purpose through making a contribution to a profession or community…(with) the skills embedded in jobs one of the principal drivers of increased productivity" (p. 83).

The report also noted that "Technology adoption, use and diffusion is directly related to individuals having the required skills" (p 85). The impact of technology on productivity has significantly increased since the last productivity review. As the Business Council of Australia's (BCA) 2017 *Future Proof* report noted, "Australia's 'economy will increasingly become the domain of skilled workers who can harness and augment technology" (p 7).

Reflecting the pace of economic, social and technological change, the BCA report emphasised the need to create a culture in Australia of lifelong learning, with the associated systems and policies to support this for all Australians. Similarly, the Report of the Review of Senior Secondary Pathways into Work, Further Education and Training (Education Council, 2020) noted that "school leavers…need to be adaptable, flexible and confident. Education must provide students with the essential attributes they require for lifelong learning in whatever fields of endeavour they may choose" (p 12).

There is also a clear link between innovation, productivity and economic progress. In economic terms, innovation is the development and application of ideas and technologies that improve goods and services or make their production more efficient (European Central Bank, 2017). Bloom et al (2019) have argued that innovation is the only way for the most developed countries to secure sustainable long run productivity growth.

One of the key ingredients of innovation is the skills, knowledge and experience (human capital) of a nation's workforce. It has been argued that while policies such as research and development tax credits and direct public funding may boost innovation in the short run, increasing the stock of human capital is more effective in the long run (Khatiwada and Arao).

Research in the United States (Van Reenen 2021) has examined the link between family background and the likelihood of being an inventor[1], showing that those born into low-income families, minorities and women are highly underrepresented. Children born into affluent families are much more likely to grow up to be inventors, compared to children born into low income families. This is regardless of early capability in subjects such as maths. Even for children who are in the top five percent mathematically, those from affluent families are far more likely to become inventors, contributing not only to their personal success, but also to national innovation and economic growth.

[1] Defined as being named on a patent document, both applied and granted. Patents are often part of the innovation process.

Van Reenen argues that rather than ability differences explaining US patterns of inventors, there is a misallocation of talent. He asserts that giving disadvantaged groups the same opportunities as their similarly talented but more affluent peers, would see many more people from disadvantaged backgrounds pursuing an inventor career and increase the quality and quantity of aggregate human capital.

Bell et al (2019) (cited in Van Reenen 2021) have estimated that reducing such barriers for those from disadvantaged backgrounds would potentially quadruple aggregate US innovation. While The Smith Family is unaware of similar research in Australia, it is likely that the same relationships exist here, with the same potential benefits from strategies that aim to maximise the potential of children from disadvantaged backgrounds.

HOW IS AUSTRALIA'S EDUCATION SYSTEM PERFORMING?

The early learning and care, school, Vocational Education and Training and university sectors all play a key role in the skills (both cognitive and non-cognitive) and mindsets that young people develop. This in turn influences their capacity to contribute economically and socially, including to Australia's productivity. This section provides data on how well these sectors are performing for young Australians, particularly those experiencing disadvantage.

Early Learning and Care

While the early years of a child's life may seem a long way from post-school engagement in employment and lifelong learning, research on how skills are acquired and developed, highlights the need to consider this life stage when seeking to understand and enhance Australia's productivity.

The early years of life play a key role in laying the foundations for children's future learning and lifetime outcomes (McLachlan et al 2013). If children do not acquire crucial skills and knowledge, and develop positive attitudes to learning early on, it can become increasingly difficult for them to learn as they get older (Bailey 2014). School entry maths skills, for example, are predictive of later maths learning and achievement (Carmichael et al 2013).

Nobel Economist James Heckman has published extensively on the importance of the early years for laying the foundations of human skills formation and capability and in turn, long-term participation in the workforce (as well as other positive life outcomes). He has also noted that policy and programmatic efforts in this space should particularly target children experiencing disadvantage (see for example Cunha & Heckman 2007; Heckman 2007).

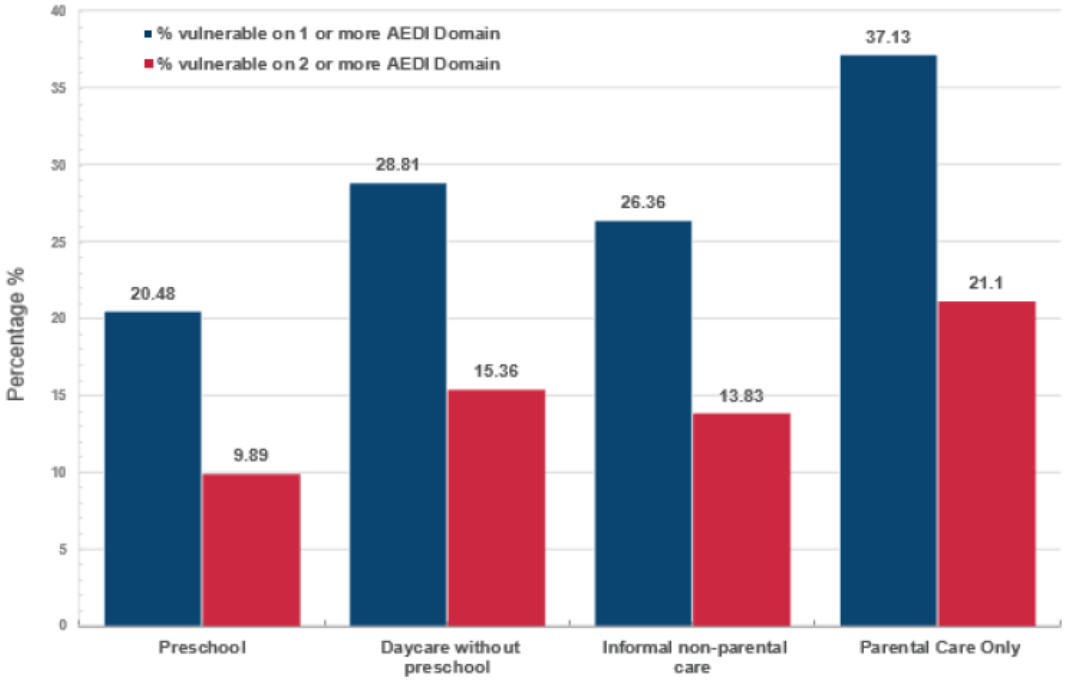
The Productivity Commission's 2017 productivity review noted, but perhaps under-emphasised, the role quality Early Childhood Education and Care plays in supporting the foundations of life-long learning, and in turn an individual's capacity to contribute economically and socially.

The most recent Australian Early Development Census (AEDC) for which data is publicly available, shows that in the first year of school, one in five Australian children are not on track in all five key development areas. For children living in Australia's most disadvantaged communities and for Aboriginal and Torres Strait Islander children, the percentages of children who are not on track are even more significant, at 32.3 and 41.3 percent respectively (Australian Government 2019).

Confirming the importance of what happens in the years *prior* to school for longer-term educational outcomes, research shows that the AEDC is a good predictor of children's literacy and numeracy outcomes as they move through primary school and into secondary school. A child who is developmentally vulnerable on one domain of the AEDC is more than twice as likely to be in the bottom 20 percent of students for reading skills in Year 7, than a child who was not developmentally vulnerable on any of the AEDC domains (Australian Government, 2015).

AEDC data also contributes to an understanding of the benefits for children of preschool participation as shown in Figure 1. Children who attend preschool are less likely to be developmentally vulnerable across all five AEDC developmental domains, compared to children in other forms of care.

Figure 1: Proportion of children developmentally vulnerable on AEDC domains by care type



Source: Australian Government, 2014

Recent research by Hurley et al (2022) reinforces the importance of access to quality childcare for Australian children, families and the economy. It highlights that access is heavily influenced by where families live, with around 570,000 children aged 0 to 4 years living in neighbourhoods where childcare is scare.

In Australia's major cities, areas where access to childcare is more limited, tend to be in the outer suburbs, in areas experiencing greater relative disadvantage or having a higher proportion of culturally and linguistically populations, relative to areas where access is better. Further, Australian families in regional and remote areas are at most risk of suffering from poor access to childcare.

Limited access to quality childcare has implications for children's development, particularly those from more disadvantaged backgrounds. There is also an association between the accessibility of childcare and female workforce participation. Female parents with a child aged under 5 years, who live in an area where there is limited access to childcare, have lower levels of workforce participation (Hurley et al 2022). The impact of limited access to quality childcare therefore impacts on productivity, both in the short and longer term.

School and post-school data

The recent *Report of the Review of Senior Secondary Pathways* acknowledges that literacy, numeracy and digital literacy continue to be essential competencies and that in addition, young people need "employability skills, creativity and entrepreneurial capabilities, financial literacy, interpersonal skills and civic understanding" (p 17). Many, in fact perhaps all of these skills, are directly or indirectly related to productivity.

Analysis by Victoria University's Centre for International Research on Education Systems (Lamb et al, 2020) of a range of Australian educational data,[2] shows that significant proportions of young Australians are not acquiring these skills. Young Australians from low socioeconomic backgrounds, those from Aboriginal and Torres Strait Islander backgrounds and those living in regional and remote areas are much less likely than their peers to acquire these skills.

For example, at age 15, young people from low SES backgrounds are on average, three years behind their more affluent peers on reading, numeracy and scientific literacy. Achievement in Information Communication Technology Literacy, now identified as a core skill for participation, is also significantly lower for children and young people from disadvantaged backgrounds, relative to their more advantaged peers. Disadvantaged young people are also less likely to have strong levels of creative problem-solving skills, or display high levels of self confidence, relative to their more advantaged peers.

Research also shows a strong relationship between the completion of Year 12 or equivalent (Certificate III or above) and longer-term participation in the labour market. Lamb et al (2020) show that at age 29, 85 percent of young people who had completed Year 12 or equivalent by age 19, were in full or part-time employment, compared to only 64 percent of those who hadn't completed Year 12 or equivalent at age 19. Research with young Australians experiencing disadvantage (The Smith Family 2018) shows similar findings – 82 percent of young people experiencing disadvantage who had completed Year 12 or equivalent were fully or partially engaged in employment, education or training around a year after leaving school, compared with 69 percent of those who hadn't completed Year 12 or equivalent.

The relationship between the completion of Year 12 or equivalent and post school engagement in employment, means it is a key metric for efforts focussed on enhancing Australia's productivity. There is a 25 percent difference in the proportion of young people from disadvantaged backgrounds who complete Year 12 or equivalent, compared to those of advantaged backgrounds (Lamb et al 2020).

The schools' data reported above pre-dates the COVID pandemic. The move to remote learning which was necessitated for varying periods of time from 2020 and continues for some students in 2022, has further exacerbated pre-existing skills gaps. Analysis by the Grattan Institute of literacy and numeracy data from the 2021 Australian National Assessment Program (NAPLAN), confirmed an increase in the educational gap between advantaged and disadvantaged students in at least two states, Victoria and New South Wales, where there had been significant periods of remote learning (Hunter & Emsile 2021).

Participation in and completion of university and VET study

The Vocational Education and Training (VET) and university sectors also make a key contribution to Australia's productivity. Young Australians from high SES are much more likely to be studying at university and have completed a degree, than their peers from low SES. At age 24, two thirds of young Australians in the highest SES decile have attained a university degree or are enrolled in one, compared to only 18 percent of those from the lowest SES decile (Lamb et al 2020).

[2] Including NAPLAN, the national 2016 Census, the OECD's Programme for International Student Assessment (PISA), and the Longitudinal Study of Australian Children

Conversely, young people from low SES are more likely than their more affluent peers to participate in VET. At age 24, 35 percent of those in the lowest SES decile have attained or are currently enrolled in a VET Certificate III or higher, compared to 19 percent of those in the highest SES decile (Lamb et al 2020). Despite the relatively higher proportion of young people from disadvantaged backgrounds participating in VET, overall this group is much less likely to have completed a post-school qualification or be studying for one, than their more advantaged peers.

Young people's educational journeys significantly influence the likelihood they will be fully engaged in employment, education and training post-school. At age 24, only just over half of Australians in the lowest SES decile are fully engaged in employment, education and training, with this figure not changing for this group at age 29. By comparison, over 80 percent of those in the highest SES decile are fully engaged at both age 24 and 29.

These statistics impact at the individual, family, community and national level. They signal lost potential and a curtailment of capacity for individuals, as well as directly impacting the type and quantum of skills and human capital available for a 21st century economy. There are also indirect costs to productivity and the Australian economy, due to the increased costs incurred through Government services, as well as the loss to tax receipts that is a consequence of limited or no participation in the labour market. This greater draw on Government resources means there is less available for a range of initiatives which might promote increased productivity.

It has been conservatively estimated that the average lifetime costs of each young Australian who does not complete Year 12 by age 19 is around $1 million[3], with the lifetime costs for a yearly cohort being $35.8 billion. Further, it is estimated that the lifetime costs of a young person who is not fully engaged in employment, education and training at age 24 is $1.5 million, with the lifetime costs for a yearly cohort being $69.3 billion for (Lamb and Huo 2017).

Educational data on young Australians, particularly in light of COVID, coupled with the likelihood that Australia may need to be much less reliant on migration in the short to medium term, highlights significant challenges for the nation's productivity, and in turn the standard of living and social cohesion that Australia has long enjoyed.

[3] At the 2014 net present value.

SOME AREAS FOR ACTION

Recommendations from *Shifting the Dial*

The previous review of Australia's productivity noted that "in some critical areas there are signs that Australia's school system is not functioning well"(p 88). Its focus included "the declining proportion of high performing students", noting this "sits at odds with the skills requirements of an advanced economy".

The review's recommendations in the schools' area didn't focus on the groups of young Australians identified in the previous section of this submission, who are persistently not achieving key benchmarks and whose potential is not being realised. Rather the recommendations focused on improving the quality and effectiveness of the teaching workforce - both existing and new teachers - and the development of a national educational evidence base.

Teacher quality continues to receive significant attention from a range of Governments (potentially with a level of duplication) and in late 2019, all Australian governments agreed to create an institute (the Australian Education Research Organisation (AERO)) to "position Australia's educators at the forefront of education research to improve learning outcomes for all children and young people" (https://www.edresearch.edu.au/about-us).

The Smith Family welcomes the establishment of AERO and looks forward to its contribution, noting that the required systems change is likely to take many years. The Smith Family is also cognisant of the important role of teachers in student outcomes. However, given the range of 'beyond school' factors that influence these outcomes[4] a focus on teacher quality alone will not make the impact on Australia's educational performance that is required. As the data quoted earlier indicates, Australia's performance is not improving and is being further impacted by COVID19. Much more needs to be done, with direct benefits to Australia's economic and social wellbeing, including its productivity.

Below are a number of areas that The Smith Family recommends as areas for action that would contribute to improved educational and employment outcomes and Australia's productivity.

Preschool participation

Research on the value of preschool participation is clear, particularly for children living in families experiencing disadvantage. Currently however, there is no nationally agreed dataset on preschool participation, in particular attendance rates, despite its contribution to children's development and the labour force participation of parents/carers. This means it is not possible to identify precisely which children and families are missing out on participating.

Billions of dollars are invested in the Early Learning and Care system nationally, but there is also no evaluation system in place to guide investment. A nationally agreed evaluation framework and nationally consistent data collection would support systemic responses to investment in this key area and allow for more targeted needs-based funding (The Smith Family, 2021). This is turn would strengthen the likelihood of more children, particularly those from disadvantaged backgrounds, being able to start school developmentally on track, setting them up for long-term educational success and able to contribute economically and socially to Australia.

[4] While in-school factors are important influencers on educational achievement, 'beyond school' factors are even more important. Students themselves account for about 50 percent of the variance in achievement, the home an additional five to 10 percent and peers a further five to ten percent (Hattie 2003).

Unique Student Identifier and data integration

Continuing with the data theme, the failure of Australia over decades to implement a Unique Student Identifier (USI) that covers, as a minimum, students' movement through school, VET and university (and ideally through the years prior to school), is significantly impacting Australia's capacity to make the most effective use of its very large investments in these sectors. This limitation means it is not possible to undertake quality evaluations of a range of policy initiatives nor contribute as comprehensively as possible to the Australian educational evidence base. While the Education Ministers Council has again agreed to the implementation of a USI and in 2019 the criteria for it, progress in its implementation remains slow, with significant missed opportunities for individual young people and for the system more broadly.

The Smith Family has a Unique Student Identifier for all of the more than 58,000 school and tertiary students on its long-term educational scholarship program *Learning for Life* (LfL). This USI allows the tracking of each individual student's progress over time, on a range of educational outcomes, regardless of whether they move jurisdiction or educational sector. Analysis of the longitudinal LfL data has contributed to the Australian educational evidence base[5] as well as enabling The Smith Family to provide more targeted and timely support to students as they need it.

In addition to the need for a USI, there is now significant capacity to leverage data integration opportunities across jurisdictions and sectors to support improved service delivery and outcomes. This includes opportunities to better understand the intersections between education and employment, but also other dimensions such as social security, community services and health. This information can critically inform service and system design. Initiatives such as the Pathways for the Future Research Project in NSW show promise, but efforts in this area should be both sustained and accelerated, with lessons learnt from previous initiatives, such as the NSW's *Their Futures Matter* initiative, which showed initial promise, but has not been sustained.

In noting the benefit such data initiatives can have, The Smith Family notes the considerable data and insights which are collected by non-government organisations, and the potential role this can play in improving individual outcomes and in turn economic and social participation. For example, The Smith Family has established data sharing arrangements with the South Australian Department for Education. This enables direct real-time access for Smith Family staff to data the Department holds on students The Smith Family is supporting. This is contributing to more timely and targeted support for students, and it is anticipated, improved educational outcomes overtime. This data initiative is the result of a shared commitment to improving the educational outcomes of children experiencing disadvantage. The Smith Family would urge an increased system and sector openness to quality and ethical data exchange initiatives, given the benefit they can bring to the individuals organisations are seeking to serve.

School funding

School funding has long been a topic of public policy debate in Australia. The report of the *Review of School Funding* (DEEWR 2011) recommended a significant increase in funding across all schooling sectors, especially the government sector, given the numbers and greater concentration of disadvantaged students in government schools. It also recommended that school resourcing be 'needs-based', with additional loadings to take account of students' socioeconomic background, disability, English language proficiency, the particular needs of Aboriginal and Torres Strait Islander students, as well as school size and school location. This recommendation reflected the "additional costs of meeting certain educational needs" (p xvi).

While Australia has moved some way to implementing the principles recommended by the Review, and additional funding has flowed, their full intent has not been realised. This is partly because distribution of funding has occurred at a jurisdictional and sector level, rather than directly to schools.

[5] See for example https://www.thesmithfamily.com.au/-/media/files/research/reports/attendance-lifts-achievement-2021.pdf

The Smith Family's experience partnering with highly disadvantaged schools to support improved educational outcomes, is that many are not fully benefitting from the principle of 'needs-based' funding. This is in part contributing to the continued and growing educational gaps identified earlier, and which have been exacerbated by COVID.

While funding alone will not address the educational challenges facing Australia, which are and will continue to impact productivity, it does play a contributing role. The basic principles of the 2011 Review remain sound and their full implementation, if associated with the use of available funding on evidence-informed initiatives, policies and approaches, would contribute to improvements in educational outcomes and Australia's productivity.

Careers guidance, support and pathways

Young people's capacity to engage in a 21st century economy is influenced by the skills, knowledge, attitudes and behaviours they acquire and continue to develop through schooling and beyond. This includes having the foundations and mindset to be a life-long learner. It is also shaped by the careers support, guidance and exposure to work they access, as they move through school and post-school.

A number of recent reviews (eg the Senior Secondary Pathways Review and the 2019 Joyce Skills Review) have identified the need for fundamental change in this area, with the Senior Secondary Pathways Review noting "careers advice (in schools) nationally is inadequate, despite individual pockets of best practice" (p. 18).

The Smith Family's experience is that current approaches to careers support for young people struggle to keep pace with a rapidly changing economy and labour market, particularly in disadvantaged schools, where higher student needs combine with limited access to networks of employers and those in employment, to make this area particularly challenging. Research shows that young people generally have low levels of careers knowledge and continue to aspire to jobs that may no longer be relevant or available. The Vocational Education and Training sector is critical for Australia's current and future economic growth, yet many young people from disadvantaged backgrounds and their parents/carers have a limited or inaccurate understanding of it.

Further, there is now strong evidence that children start to develop their career preferences in the primary years of schooling. Stereotypical views about the jobs people do, based on social background and gender, become ingrained during this time. The aspirations of children in primary school are often narrow, persistent, out-of-sync with labour market demands and influenced by the people children know (Education and Employers Foundation 2021).

There is work underway across jurisdictions to strengthen lifelong careers support for Australians, including through the establishment of the National Careers Institute and significant revisions to the careers approach and curriculum in schools in a number of states. The Commonwealth Government has also funded The Smith Family through the Department of Education, Skills and Employment, to trial a new approach to careers support in the high school years, through the *Growing Careers Project*. This four year initiative is working in 55 disadvantaged high schools to provide a more comprehensive approach to careers support. An evaluation of the initiative aims to inform systems change in this area.

Alongside these and other initiatives, there is a need to extend quality careers support more explicitly into the primary years of schooling, as well as strengthening the number and qualifications of those providing careers support in schools. Essential components of high quality careers support includes much stronger exposure of young people to the opportunities offered through VET and much stronger school-industry partnerships.

One of the recommendations of the 2018 *Report of the Review to Achieve Educational Excellence in Australian Schools*, was the establishment of mechanisms to facilitate quality partnerships, between schools, employers, members of the community, community organisations and tertiary institutions. Such mechanisms (eg brokers) are important given the time and skill required to develop and maintain quality school-business partnerships, particularly in disadvantaged schools, where they can have the greatest impact. Brokers allow schools to focus on their core responsibilities as educators, while mediating key business and employment relationships on behalf of the school. They also enable access to a bigger ecosystem of employers, identify gaps preventing positive post-school transitions in a local area and can engage with the range of players needed to support positive post-school pathways. A systematic approach to such mechanisms, particularly in communities experiencing disadvantage, would contribute to improved post-school outcomes and in turn Australia's productivity.

Vocational Education and Training in schools

Participation in VET, including while at school, can play a key role in Australia's human capital and in turn productivity. The Secondary School Pathways and Joyce Reviews however, found that VET delivered to senior secondary students is of inconsistent quality, difficult to navigate, and not well integrated into senior secondary studies. There is also concern that interest in VET is waning, both at school and post-school, and qualification completion rates are not high.

Currently, vocational learning at school does not offer adequate pathways into secure, quality, sustainable employment once students finish their courses and leave secondary school (Brown 2019). This is because the qualifications typically undertaken by school students do not provide sufficient training or skills to meet the needs and expectations of industry and employers. While offering young people a 'taster' experience, they are not an end in themselves. These qualifications tend not to teach sufficient technical or specific skillsets to make students employable in a vocation, nor do they teach substantial general competencies that help prepare people for the workplace The result is that vocational learning at school often does not assist students with entry into further training or study (Clarke 2014).

Given the role that quality VET could play in developing critical labour market skills that contribute both to individual and national capability, The Smith Family supports the recommendation that the Education Council, in collaboration with the Skills Council, co-design with industry, a national strategy on vocational education and training in schools that enhances the quality of VET (Review of Senior Secondary Pathways 2020).

Improving young people's pathways into and across the tertiary education system

Central to increasing Australia's productivity is improving the pathways into and across the tertiary sector for secondary school students. Young people must be able to identify their best post-school pathway and understand how to pursue it. Critical to this is ensuring a dynamic and well-connected tertiary sector that provides a diversity of options for young people, including multiple entry and exit points and the flexibility to move easily between higher education and VET.

In pursuing post-school pathways, young people need to understand the value of both VET and higher education. Given recent changes and challenges to the VET system it's important to ensure a strong VET sector that can compete on an even playing field, noting that the status of VET relative to higher education has diminished in recent years. Both systems offer rewarding careers which contribute both to the individual and to the nation, and efforts to create improved pathways for young people, must ensure that one sector is not preferred over the other.

Given the tertiary sector is a highly competitive and complicated market, with many providers and options, it can be overwhelming for students and families trying to choose the right course, qualification and/or institution. This is particularly the case for students from disadvantaged backgrounds, who may be the first in their family to pursue post-school study.

Deciding whether to enter the VET or higher education sector, requires young people to have the knowledge of the requisite subjects to complete at school, the qualifications to select after Year 12, including subject choices within them, and the likely career prospects on completion of these studies. Many young people from disadvantaged backgrounds and their parents/carers, have a limited understanding of the types of jobs or careers which follow from the study of particular qualifications. Most are unaware that the VET sector provides training courses for nine out of 10 occupations predicted to have the greatest growth of new jobs or that employment outcomes for VET graduates are strong (Wyman et al 2017).

Clearer and more timely information to young people and their parents/carers on the different tertiary pathways would enable them to make informed decisions about their post-school plans. Ensuring equity of support across both VET and higher education is critical in this. Such information has been shown to support increased course completion rates (Mc Vicar 2016).

Moving within the tertiary sector to build skills

The Smith Family also believes that accelerating the development of intersecting pathways between the VET sector and universities could contribute to increased productivity. Such arrangements can be particularly beneficial for young people from disadvantaged backgrounds, who are more likely to commence VET study immediately post-school than university.

There are some, but not many, dual-sector universities in Australia, such as Victoria University. For well over a decade it has delivered a VET in Schools program in partnership with 150 secondary schools in Melbourne (Victoria University 2019). The program allows secondary students to gain practical skills in specific industries such as construction, early childhood care, tourism and allied health, while undertaking the Victorian Certificate of Education or the Victorian Certificate of Applied Learning. The program offers students the chance to connect with industry-experienced practitioners and develop skills to make them employable.

The Smith Family supports a more seamless and student-centric approach to VET and higher education. As part of this, lessons could be drawn from countries such as Switzerland and Germany.

The Swiss VET sector is a fully integrated component of the education system, and provides a number of intersecting pathways allowing students to move between upper secondary school, vocational studies and a university of applied sciences. The sector has close links with industry in designing and delivering vocational education, including with regards assessments and training (Hoffman and Schwartz 2015). Corporations play a key role in providing meaningful, paid work placements as part of vocational training for 70 per cent of school leavers in both blue and white-collar industries. These traineeships ensure a supported transition to employment for young people and allow employers to participate in training their future workforce to develop the skills their organisations need.

Similarly, Germany is increasingly offering dual study programmes where students undertake a vocational qualification as well as an academic degree. The academic study is complemented by occupational learning with a particular company. There are over 1,600 dual study programmes available in Germany through a range of education institutions and universities.

These local and overseas examples demonstrate the benefits of an integrated tertiary system where VET is a highly-valued component, on an equal footing with university. Further efforts in this area would contribute to young people being more skilled and employment-ready, able to contribute to Australia's productivity.

Digital capability

Digital capability is key for Australia's productivity agenda, yet the Australian Digital Inclusion Index (ADII) and a range of other data, shows that not all Australians are digitally included. The ADII shows, in particular, the strong link between education, income and digital inclusion. For example, there is a gap of 26.5 points on the index between Australians in the lowest and highest income quintiles (Thomas et al 2021).

Of particular concern, the ADII shows that low income families with school aged children:

- Are less likely than other similar families to have access to individual devices and data
- Spend a higher proportion of their income on internet access each month
- Are much more likely to be mobile-only internet users.

The Smith Family's data shows that 15 percent of the students it supports on the *Learning for Life* program do not have a computer or tablet connected to the internet at home. Further, many families on the program who do have the internet at home, only have one device to support the learning and employment of a number of children and adults.

Parents in low income families are also less likely than parents in other income groups to have strong basic digital skills, adding to the impact of disadvantage on the acquisition of key digital skills by young people as they move through school. This has flow on effects to their ability to participate in a high-skilled 21st century economy.

While there is a range of work underway to increase Australians' digital inclusion, there is not yet a comprehensive Whole-of-Government Digital Inclusion Strategy, which is central to supporting increased productivity. High level digital skills are an essential component of driving innovation and being able to grow the economy in areas of high value. These skills also play a role in increasing the efficiency of service delivery across a range of sectors. National strategies in this space should focus not just on business and industry, but on growing the capability, particularly of young people, for whom the return on investment will be most significant over time.

Complexity of service systems especially for Australians most in need

Education and skills development programs are an integral part of the human services system, with barriers to access often sitting outside the education system itself. Given that, if Australia is to address inequities in educational achievement and in turn productivity, attention also needs to be paid to how the current service system either supports people to realise their potential or holds them where they are.

There are a significant number of individuals and families in Australia whose experience of disadvantage is multilayered and prolonged, including intergenerational. Many face health and disability challenges, including mental health, alongside of poverty and other issues. As a consequence, they are likely to engage with many Government and non-government agencies, often simultaneously. Many are not participating in meaningful and secure employment, either at all or in a sustained way, or enjoy the quality of life that most Australians aspire to.

Despite the good intentions of those who work in them, and very significant Government and community investment, the systems set up to 'serve' these Australians tend to be complex for them to access. They are often ineffective in supporting positive change and inadvertently rob people of a sense of agency and empowerment. This is not only a personal tragedy for each of these Australians, but a national one, as it curtails people's capacity to contribute economically and socially in ways that many of them long to. It also requires enormous and potentially unsustainable fiscal resources to be expended, so on both dimensions, there is a link with Australia's broader productivity agenda.

The Smith Family contends that while aspects of Australia's human services system work well, the system needs to be redesigned, so it is better able to address the needs of those Australians experiencing complex and sustained disadvantage. In improving the system for these Australians, there is likely to be added benefits for all Australians who use the system, in terms of quality, efficiency and effectiveness.

Central to a successful system are relationships of respect, dignity and empowerment and a long-term focus, given that sustained change takes times. Underpinning the system should be an understanding of the strengths and aspirations of service users, rather than a deficit approach that focuses on what individuals 'can't do' or 'don't have'. The Smith Family's experience working with highly vulnerable families is of their enormous strength and resilience in the most challenging of circumstances. Outcomes-based contracting of services, rather than a focus on outputs, is also a key component of a successful system.

We appreciate the challenge of changing the human services system, particularly given the different responsibilities of Commonwealth, State/Territory and non-government organisations, but we believe there is some appetite for change across organisations, sectors and jurisdictions. There is also enough evidence and insights from around the world and Australia to inform efforts in this space. We are also cognisant of the individual and collective benefit that would flow from a system which led to better outcomes for those it is designed to serve, including over time, to productivity.

CONCLUSION

There is a clear link between Australia's human capital, innovation capability and productivity. With an increasing reliance on technology to drive economic growth, those links will only be enhanced throughout the 21st century and beyond.

On a range of educational and employment measures, there are significant numbers of young Australians, particularly those from low socioeconomic and Indigenous backgrounds, who are not realising their economic and social potential. The impact of COVID appears to be exacerbating pre-existing educational gaps between young people experiencing disadvantage and there more advantaged peers, heightening this lost potential. At the same time, COVID coupled with the war in the Ukraine, are significantly disrupting international people movement, including that of skilled migrants, who have played a crucial role in Australia's economic growth for decades.

Addressing these educational gaps is possible and will bring with it enormous benefits, both for individual young people, their families and communities, as well as for Australia as a whole. Strategies that could significantly increase Australia's productivity in the short and medium term include: increasing pre-school participation for children experiencing disadvantage; using data more effectively; needs-based school funding; improving careers support for young people; enhancing the quality of VET and young people's pathways into and across the tertiary education system; enhancing digital capability; and ensuring Australia's human service systems are better able to support Australians with complex needs.

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